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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,641	07/11/2003	Wendell Lee Wright	3447-16	5336

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EXAMINER	
TERESINSKI, JOHN	

ART UNIT	PAPER NUMBER
2858	

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,641	WRIGHT, WENDELL LEE	
	Examiner	Art Unit	
	John Teresinski	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29 and 31-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9-19,23-29 and 31-37* is/are rejected.

7)☒ Claim(s) *6-8 and 20-22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,068,281 to Harnden.

Regarding claim 1, Harnden discloses a transient suppression circuit including a sensor (Fig. 10) operable to detect one or more physical characteristics and provide a corresponding electrical sensor signal (column 5 lines 18-35) and transient suppression circuitry coupled to the sensor, the transient suppression circuitry including a first negative temperature coefficient thermistor (column 4 lines 27-30, Fig. 4 element 15) operable to couple with an electrical power source for the sensor, the transient suppression circuitry being responsive to a power surge condition from the source to dissipate electrical power associated with the surge through the first thermistor (column 4 lines 53-68).

Regarding claims 17 and 19, Harnden discloses a connector to couple the sensing device to other equipment including an electrical power source for the sensor (column 4 lines 55-56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden in view of U.S. Patent No. 5,672,940 to Wu.

Regarding claim 2, Harnden does not disclose a second negative temperature coefficient thermistor. Wu discloses a current limiter circuit including a second negative temperature coefficient resistor (column 1 lines 56-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second negative temperature coefficient resistor as taught by Wu into Harnden for the purpose of providing a more accurate sensing means.

Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden in view of U.S. Patent No. 5,206,596 to Beihoff et al..

Regarding claims 3 and 18, Harnden does not disclose sensing a change in a magnetic field detectable with the sensor. Beihoff et al. disclose a protective circuit including sensing a change in a magnetic field detectable with the sensor and including thermal breaking characterisitics (column 3 lines 24-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include sensing magnetic characteristics as taught by Beihoff et al. into Harnden for the purpose of reducing risk of injury or damage.

Claims 4, 5, 23-27, 31 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden in view of U.S. Patent No. 4,510,482 to McClanahan et al..

Regarding claims 4, 5, 23, 34 and 26, Harnden does not disclose a controller including a power source for the sensor and transient suppression circuitry coupled between the sensor and the power source of the controller. McClanahan et al. disclose a protective circuit including a negative temperature coefficient thermistor (column 2 lines 62-65) and a controller including a power source for the sensor and transient suppression circuitry coupled between the sensor and the power source of the controller (column 3 lines 27-46) t o provide an output signal to the output device in response to a change in the sensor signal (column 3 lines 27-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a controller as taught by McClanahan et al. into Harnden for the purpose of providing a more robust protective circuit.

Regarding claim 25, Harnden discloses means for indicating coupled to the sensor (column 4 lines 39-41).

Regarding claims 27, 31 and 33-35, Harnden does not disclose the sensor and the transient suppression circuitry are incorporated into an integral sensing device unit. McClanahan et al. disclose the sensor and the transient suppression circuitry are incorporated into an integral sensing device unit and packaging the sensing device and the first negative temperature coefficient thermistor within an integral sensing device unit (column 4 lines 24-32, Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an integral sensing device unit as taught by McClanahan et al. into Harnden for the purpose of facilitating packaging of protective circuitry.

Claims 9, 10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden in view of U.S. Patent No. 6,201,680 to Tokatian.

Regarding claim 9, Harnden does not disclose providing a transient power surge having a duration of at least 250 microseconds and a peak current of at least 500 milliamperes. Tokatian disclose a transducer protection circuit protecting a transient power surge having a duration of at least 250 microseconds and a peak current of at least 500 milliamperes (column 5 lines 51-62). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the surge parameters as taught by Tokatian into Harnden for the purpose of providing protection to a wide range of fault currents in order to reducing risk of injury or damage.

Regarding claim 10, Harnden in view of Tokatian discloses the claimed invention except for the duration of the transient power surge is between 250 and 500 microseconds and the peak current is between 0.5 and one ampere. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the range claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Gardner, 220 USPQ 777 (CAFC 1984).

Regarding claims 15 and 16 see claims 1 and 25 above.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden and Tokatian as applied to claim 9 above, and further in view of Wu al..

Regarding claim 11, Harnden as modified does not disclose a second negative temperature coefficient thermistor. Wu discloses a current limiter circuit including a second

negative temperature coefficient resistor (column 1 lines 56-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second negative temperature coefficient resistor as taught by Wu into Harnden as modified for the purpose of providing a more accurate sensing means.

Claims 12, 14 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden and Tokatian as applied to claim 9 above, and further in view of McClanahan et al..

Regarding claims 12 and 14, Harnden as modified does not disclose a controller including a power source for the sensor and transient suppression circuitry coupled between the sensor and the power source of the controller. McClanahan et al. disclose a protective circuit including a negative temperature coefficient thermistor (column 2 lines 62-65) and a controller including a power source for the sensor and transient suppression circuitry coupled between the sensor and the power source of the controller (column 3 lines 27-46) t o provide an output signal to the output device in response to a change in the sensor signal (column 3 lines 27-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a controller as taught by McClanahan et al. into Harnden as modified for the purpose of providing a more robust protective circuit.

Regarding claim 32, Harnden as modified does not disclose the sensor and the transient suppression circuitry are incorporated into an integral sensing device unit. McClanahan et al. disclose the sensor and the transient suppression circuitry are incorporated into an integral sensing device unit and packaging the sensing device and the first negative temperature coefficient thermistor within an integral sensing device unit (column 4 lines 24-32, Fig. 3). It

would have been obvious to one of ordinary skill in the art at the time the invention was made to include an integral sensing device unit as taught by McClanahan et al. into Harnden as modified for the purpose of facilitating packaging of protective circuitry.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden and Tokatian as applied to claim 9 above, and further in view of Beihoff et al..

Regarding claim 13, Harnden as modified does not disclose sensing a change in a magnetic field detectable with the sensor. Beihoff et al. disclose a protective circuit including sensing a change in a magnetic field detectable with the sensor and including thermal breaking characterisitics (column 3 lines 24-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include sensing magnetic characteristics as taught by Beihoff et al. into Harnden as modified for the purpose of reducing risk of injury or damage.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden and McClanahan et al. as applied to claim 23 above, and further in view of Beihoff et al..

Regarding claim 29, Harnden as modified does not disclose sensing a change in a magnetic field detectable with the sensor. Beihoff et al. disclose a protective circuit including sensing a change in a magnetic field detectable with the sensor and including thermal breaking characterisitics (column 3 lines 24-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include sensing magnetic characteristics as taught by Beihoff et al. into Harnden as modified for the purpose of reducing risk of injury or damage.

Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harnden and McClanahan et al. as applied to claim 35 above, and further in view of Wu al..

Regarding claims 36 and 37, Harnden as modified does not disclose a second negative temperature coefficient thermistor. Wu discloses a current limiter circuit including a second negative temperature coefficient resistor (column 1 lines 56-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second negative temperature coefficient resistor as taught by Wu into Harnden as modified for the purpose of providing a more accurate sensing means.

Allowable Subject Matter

Claims 6-8 and 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding claims 6 and 20:

The primary reason for the allowance of claims 6 and 20 is the inclusion of a second negative temperature coefficient thermistor, and the sensor is coupled between the first thermistor and the second thermistor . It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Claims 7 and 8 are allowed due to their dependency on claim 6.

Claims 21 and 22 are allowed due to their dependency on claim 20.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (571) 272-2235. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JT
July 20, 2005

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